

REMARKS

Status of the Claims

Claims 1 and 3 are currently amended.

Claim 5–15 stand withdrawn.

Claim 2 is cancelled without prejudice.

New claims 16–22 are added.

Claims 1, 3–4 and 16–22 are pending.

Priority Document

The Applicant acknowledges the requirement under 35 U.S.C. § 119(b) to submit a certified copy of the French Patent Application No. 0208212 filed July 1, 2002. This certified copy will be submitted by U.S. mail after this Response is submitted by way of the USPTO electronic filing system (EFS).

Claim Rejections Under 35 U.S.C. § 103 (a)

In the Final Office Action dated October 8, 2008, claims 1–4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bruneteau (U.S. Patent No. 4,981,618, hereinafter “*Bruneteau*”) in view of WO 94/19950 (hereinafter “*WO '950*”). It is said that it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply a yeast and bacteria, such as those of the genera *Bacillus* and *Pichia*, as disclosed by *WO* for treating a fruit disease because, as allegedly disclosed by *Bruneteau*, sphingolipids are effective for treating cryptogamic disease, and are represented widely in nature in yeasts and bacteria. The Final Office Action also takes the position that the skilled person would have been motivated to apply the yeast and bacteria to fruit for treating cryptogamic vine disease. It is said in the Final Office Action that each of the claimed features are either disclosed or suggested by the cited prior art, and that, absent persuasive evidence to the contrary, the claims are rendered *prima facie* obvious over the cited prior art.

Applicant traverses this rejection, and submits that the Examiner has not established a *prima facie* case of obviousness with respect to claims 1–4. MPEP 2143 mandates that any rejection under 35 U.S.C. §103 must be supported by clear articulation of the reason(s) why the claimed invention would have been obvious, and the analysis supporting the rejection should be

made explicit. KSR International Co. v. Teleflex Inc., 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007). According to KSR, “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” KSR, 550 U.S. ___, 82 USPQ2d at 1396 quoting In re Kahn, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). For the reasons detailed below, Applicant believes that the assertions made by the Examiner do provide the necessary rational underpinning to support a legal conclusion of obviousness.

Claim 1 is currently amended to require that the treatment mixture consists essentially of at least one isolated bacterium and at least one isolated yeast and an inert vehicle, and to include the limitations of claim 2 (now cancelled). Claim 3 is amended to depend from claim 1 instead of now-cancelled claim 2. Support for the amendment is at pg. 3, lines 12–23 and pg. 5, line 31 – pg. 6, line 1 of the specification, for example.

Bruneteau teaches that sphingophospholipids containing inositol are useful as inducers of resistance to various cryptogamic diseases in plants, in particular in cereals such as wheat and corn and are also effective, in the absence of pathogenic fungi, to enhance the metabolism and physiology of the healthy plant. In this context, several examples are given wherein seeds are dipped in a composition containing said compounds. In contrast to the method of currently amended claim 1, the technical problem to be solved in *Bruneteau* essentially concerns means adapted to cereals, Solanaceae or Cucurbitaceae, particularly seeds. The treatment mixture used by *Bruneteau* contains specific chemical compounds in pure state or in the form of mixtures (e.g., fractions, isolated from mycelia extracts of strains of Phytophthora) (Abstract; col. 1, line 46 – col. 3, line 59 of *Bruneteau*). Notably, neither *Bruneteau* nor *WO'950* expressly teach the treatment of cryptogamic diseases of vine, or any advantageous effect of using, in combination, at least one isolated bacterium and at least one isolated yeast to treat such diseases.

In *WO'950*, a biocontrol agent is disclosed which includes or is derived from a sourdough starter formulation comprising a mixed culture of a yeast component, a bacterial component and a substrate for the mixed culture. As specified at pg. 5, line 31 – pg. 6, line 2 of *WO'950*, the combination is used “to produce as main products lactic acid, acetic acid, ethanol and carbon dioxide which is the hallmark of sourdough fermentation.” In contrast, there is no use in the method of claim 1 of a sourdough starter formulation, or any mixed culture in combination with a

substrate. The method of claim 1 uses a mixture that is less complex than that of *WO '950*. In contrast to *WO '950*, the mixture used in the method of claim 1 consists essentially of isolated microorganisms, *i.e.*, a mixture of at least one bacterium and at least one yeast, in an inert vehicle, to treat the cryptogamic disease. There is insufficient technical basis in the cited references to motivate a person of skill in the art to replace the specific chemical compounds used in the method of *Bruneteau* with the sourdough starter formulation of *WO '950* with a reasonable expectation of success. Moreover, even if the method of *Bruneteau* were modified to use the sourdough starter mixture of *WO '950*, the resulting method would still not be the same as that of claim 1, as currently amended, which excludes a substrate for the microorganisms. Moreover, the bacterial component of *WO '950* does not include bacteria selected from the group consisting of the Bacillus, Pseudomonas, Serratia and Streptomyces genera (as per claim 2 (now cancelled), and claim 1 as currently amended).

Still further, in view of the respective teachings of the cited references, one of skill in the art would have considered the primary reference, *Bruneteau*, not ready for the particular modification suggested by the Examiner. While *WO '950* notes that the use of chemical fungicides were becoming unpopular because of health hazards and detriment to the environment, it also notes certain advantages of using chemicals as opposed to biological techniques, including efficacy of chemicals irrespective of environment or inoculum potential. *WO '950* further teaches that chemicals are easier to apply to target plants and a greater range of pathogens may be controlled. Some general disadvantages of using biocontrol agents in horticulture are also discussed in *WO '950*. For example, *WO '950* mentions lack of reproducibility and costs of inoculum production and application. (See pg. 2, lines 10–31 of *WO '950*.) As the chemicals used in the method of *Bruneteau* are mycelial extracts of *Phytophthora*, and thus potentially offer the advantages of chemicals and of the biological agents from which those new chemicals are extracted, a person skilled in the art would have considered the method of *Bruneteau* an improvement over both conventional chemical fungicides and over methods using microbial techniques, including that of *WO '950*. Therefore, as the proposed combination would offer no clear advantage, and might have been viewed as a technological step backward, one of ordinary skill in the art would not have considered the method of *Bruneteau* ready for combining with the sourdough starter mixture of *WO '950*.

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With respect to claims 3 and 4, Applicant submits that the cited references also fail to disclose the use of the specified microorganisms used in the method of claim 3 or 4.

Applicant respectfully submits that all of the pending claims are non-obvious over the combined teachings of the cited references.

New Claims

New claims 16–22 are added to ensure coverage of specific embodiments to which Applicant is entitled. These claims are supported in original claims 6–9 and 12–14 and on pages 2–4 of the specification, for example. Claims 16–21 depend from claim 1. Independent claim 22 includes all of the limitations of claim 1 and further requires that the mixture used in the claimed method additionally contains certain filamentous fungi. Accordingly, new claims 16–22 are believed to be properly included among the elected group of claims, and are patentable over the cited references for at least the same reasons set forth above with respect to claims 1 and 3–4.

Conclusion

Applicant respectfully requests entry of the claims and reconsideration of the application, as currently amended, and allowance of all pending claims. A Petition for 2-month extension of time and the associated fee accompanies this paper. If any necessary fee has been inadvertently omitted or if any additional fees are required or have been overpaid, please appropriately charge or credit those fees to Conley Rose, P.C., Houston, Texas, Deposit Account No. 03-2769, and consider this a petition for any necessary extension of time.

Respectfully submitted,

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